

FIG. 1

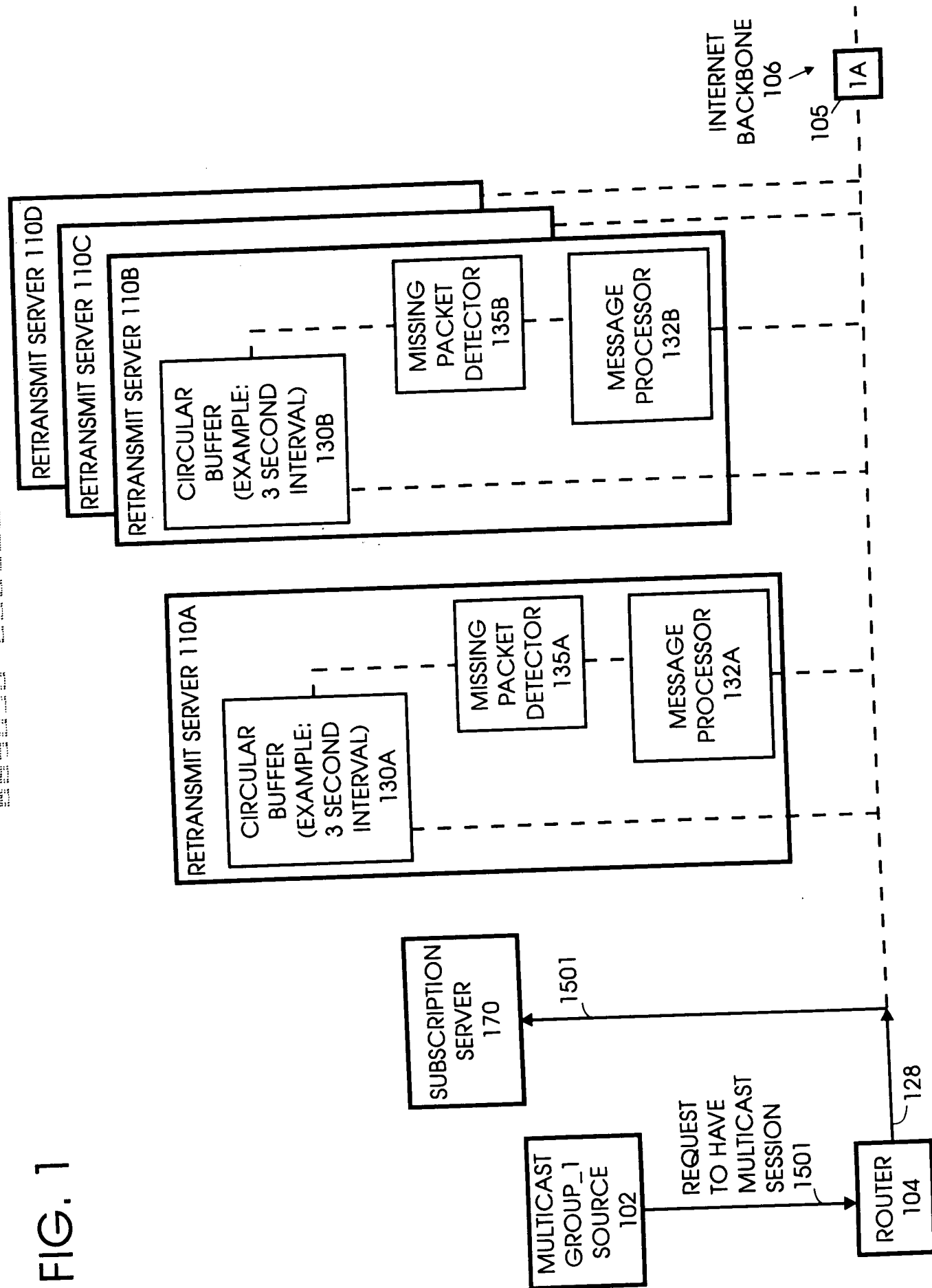


FIG. 1A

65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

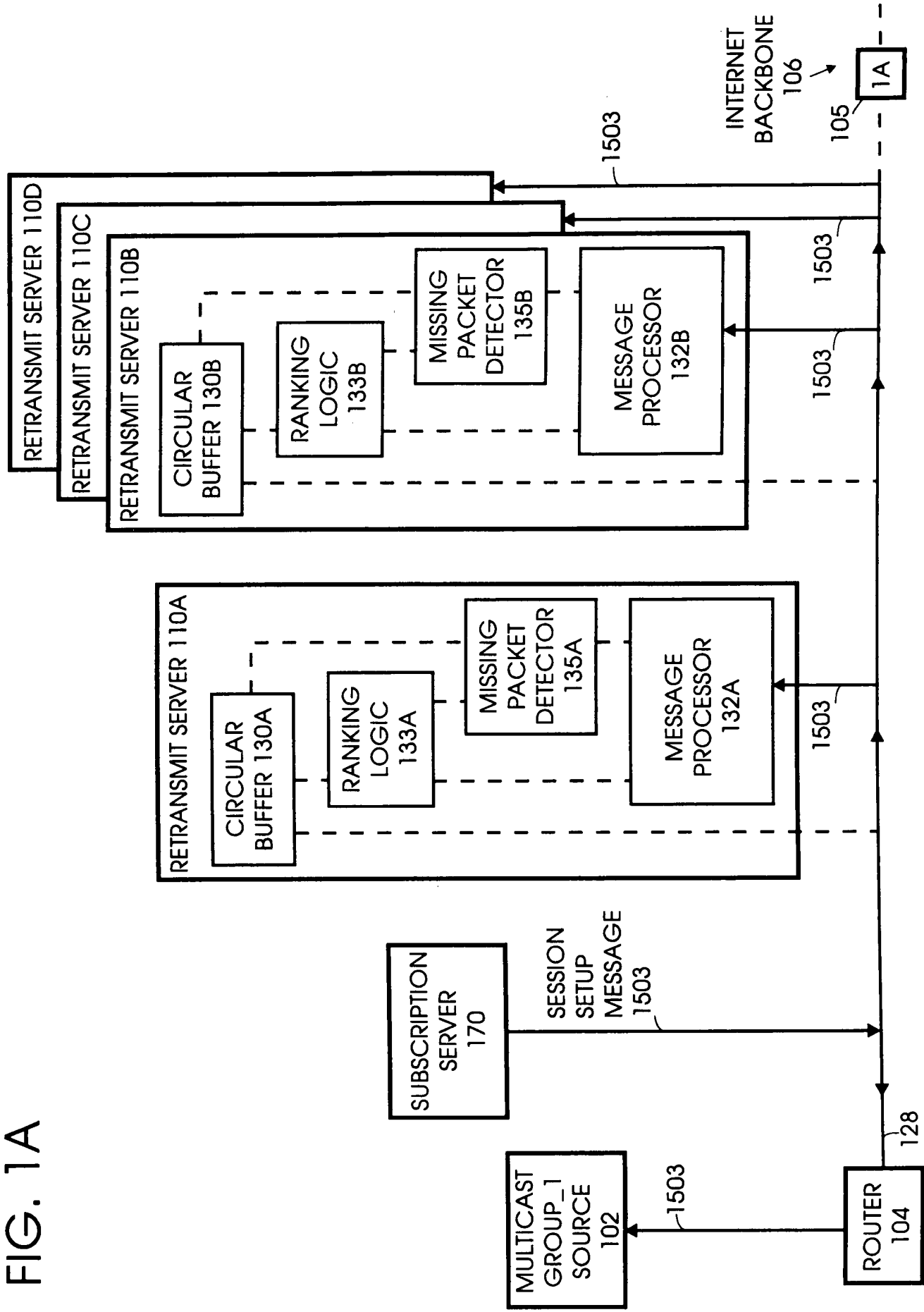


FIG. 1B

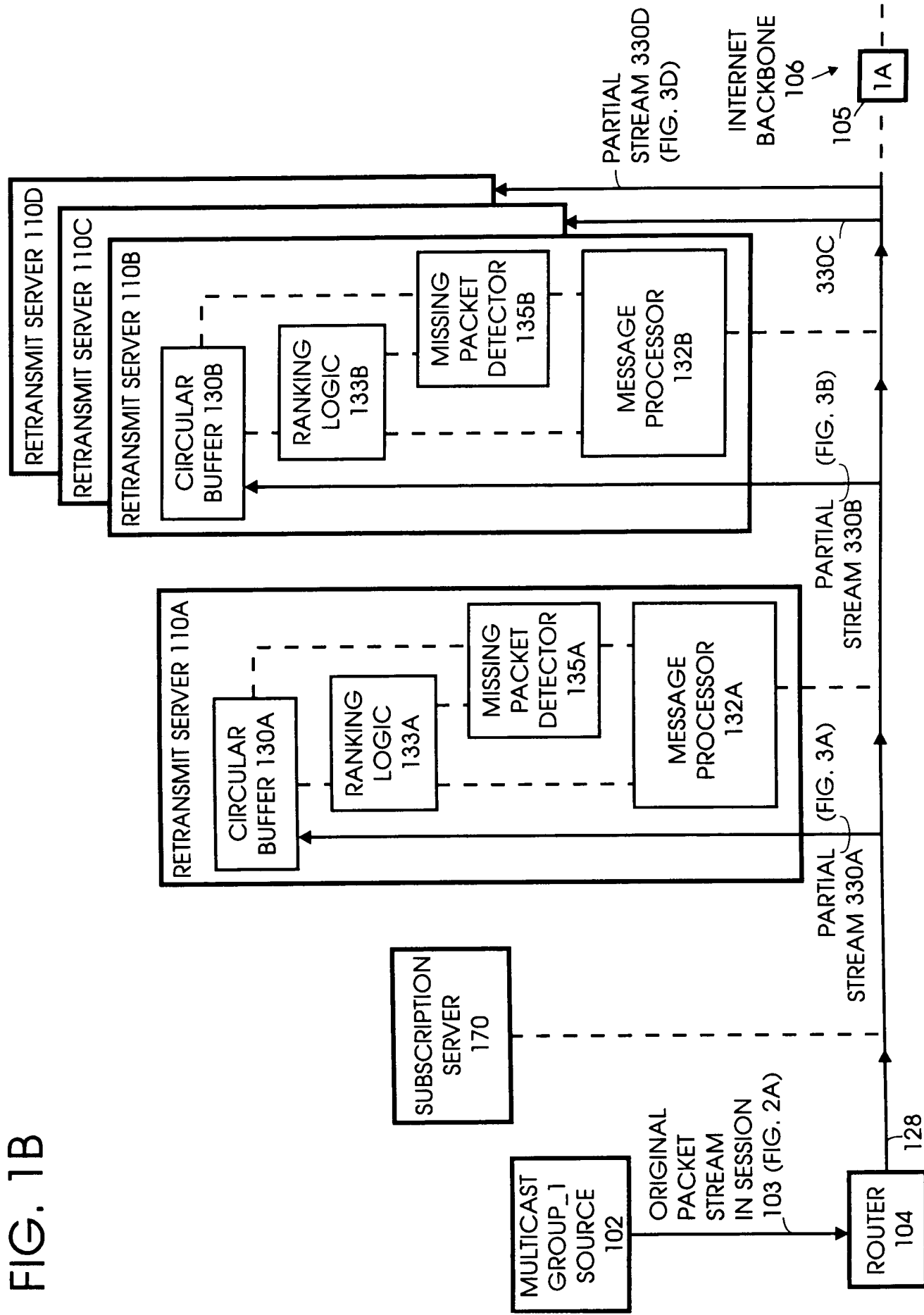
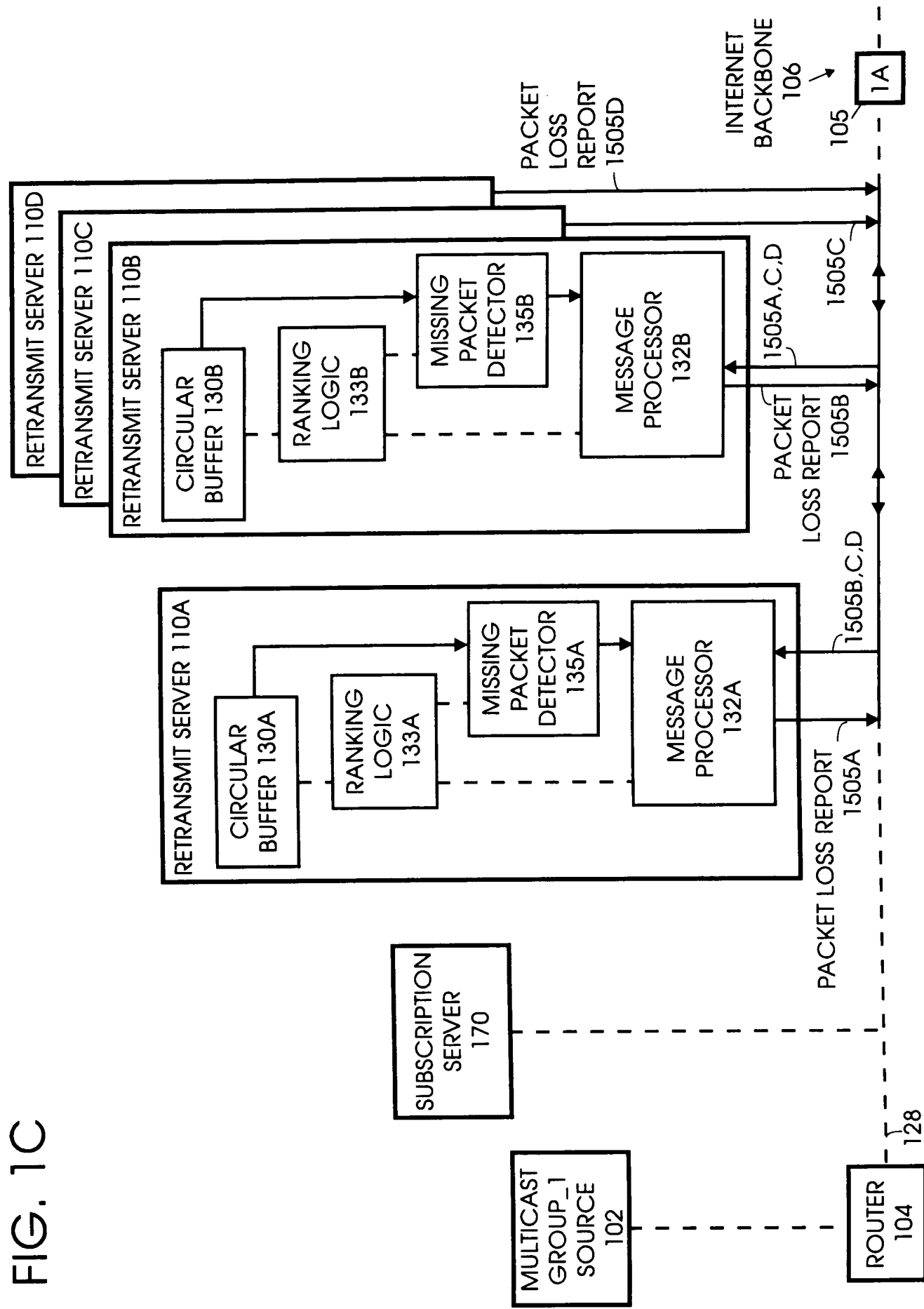


FIG. 1C

FIG. 1C



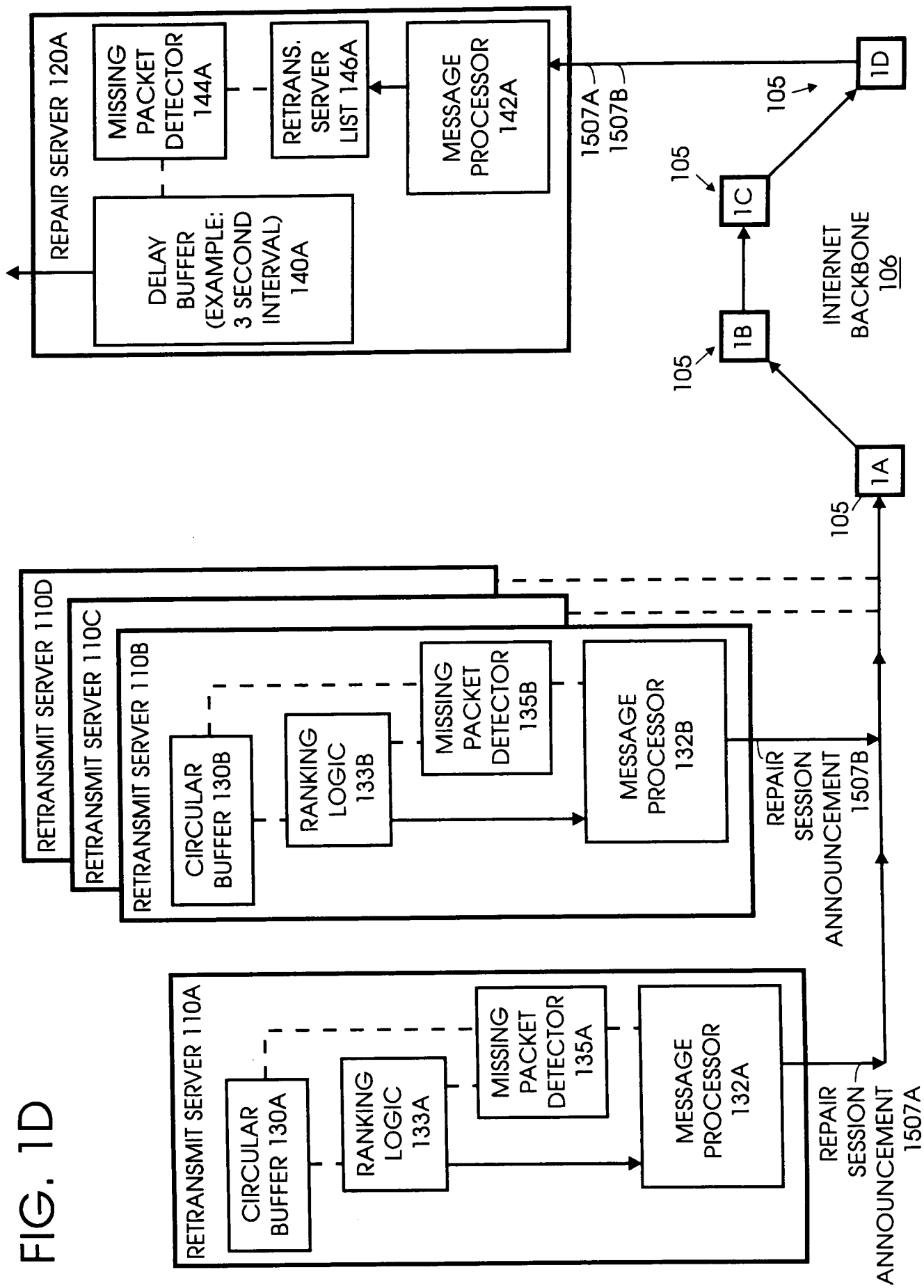
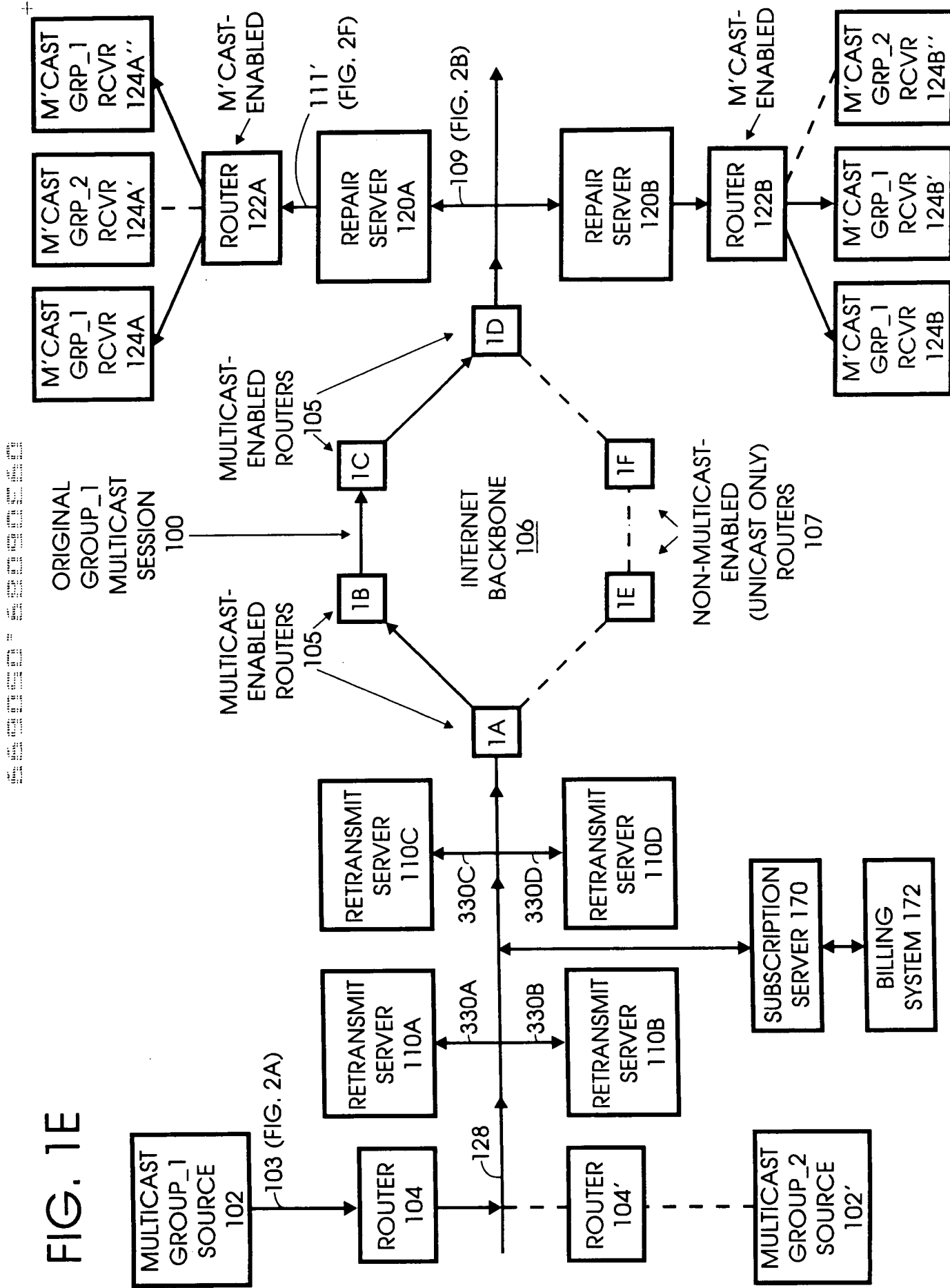
[illegible]

FIG. 1E



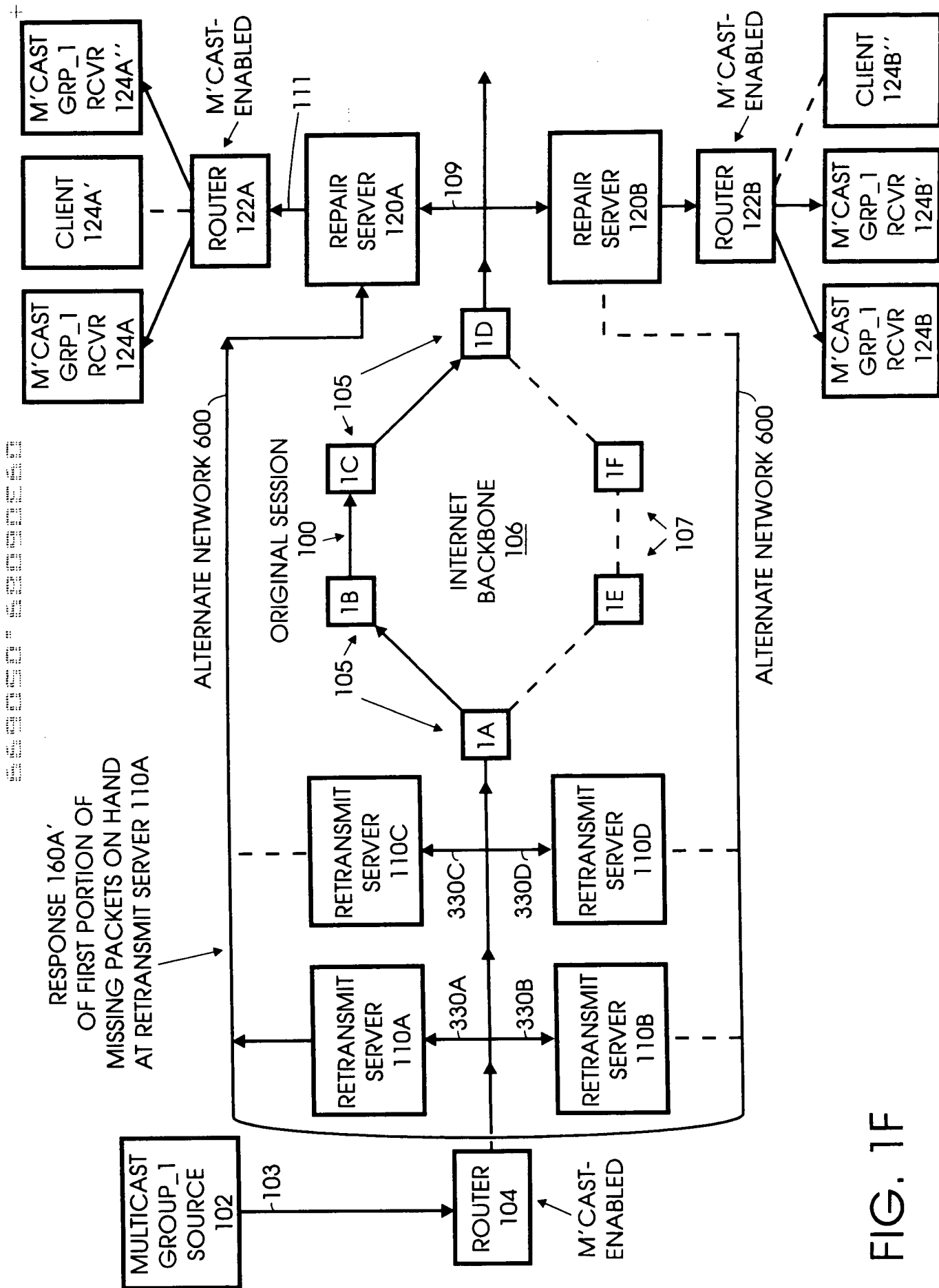


FIG. 1F

FIG. 2

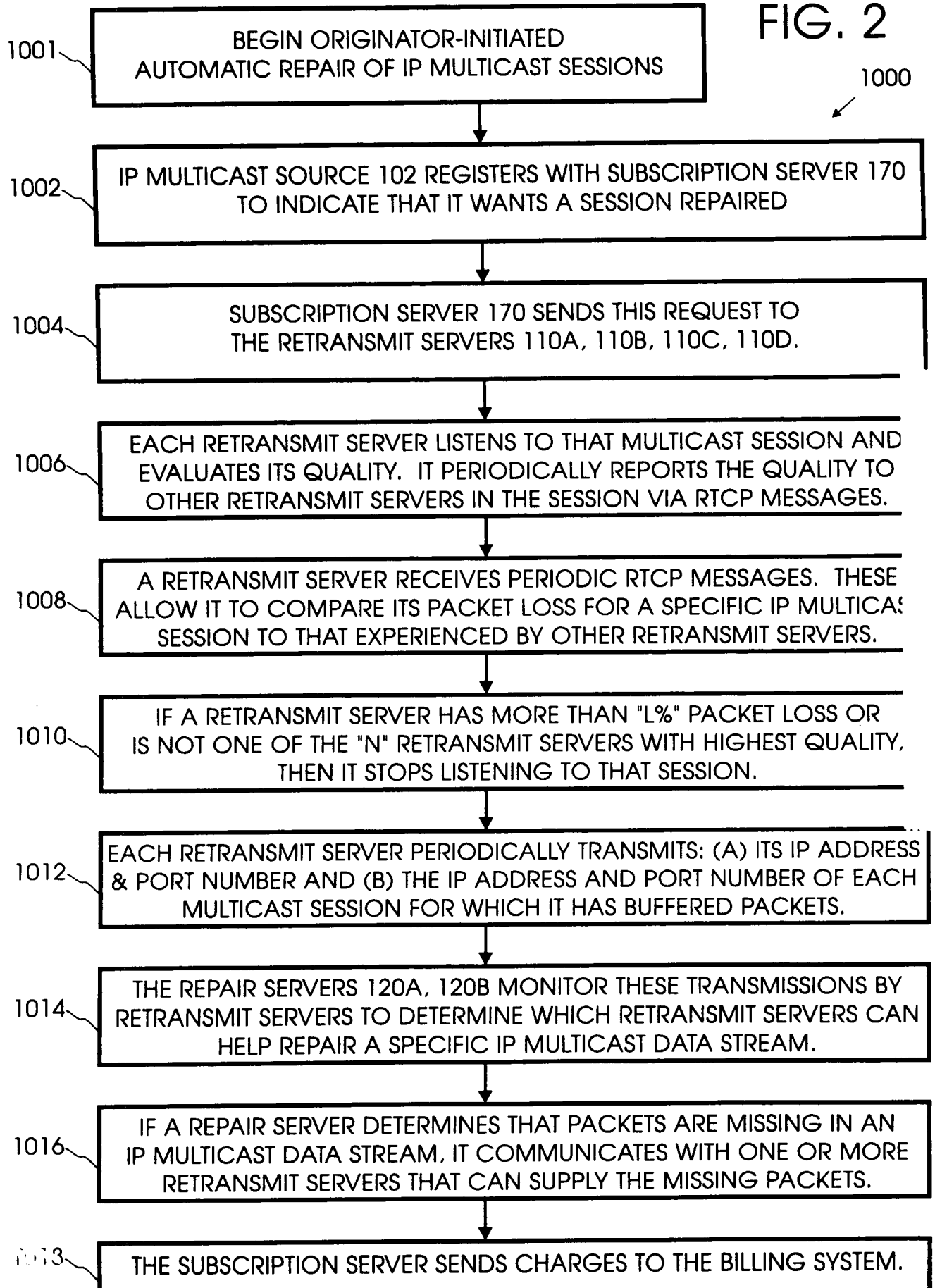
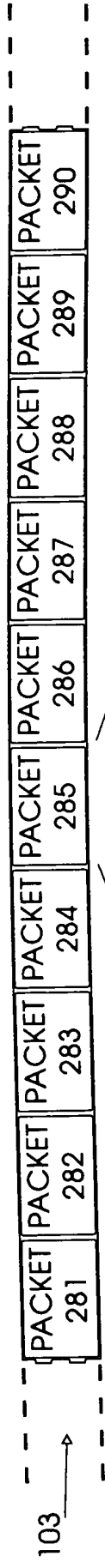


FIG. 2A

PACKETS CURRENTLY BEING OUTPUT BY
MULTICAST GROUP_1 SOURCE 102



IP HEADER			UDP HEADER		RTP MESSAGE		
SOURCE IP ADDRESS	DESTINATION IP ADDRESS	IP OPTIONS	SOURCE PORT	DEST. PORT	SEQUENCE NUMBER	TIME STAMP	DATA
RETRANS. SERVER 110A	MULTICAST GROUP_1 ADDRESS		CIRC. BUFFER 130A	DELAY BUFFER 140A			
00					285	090235	

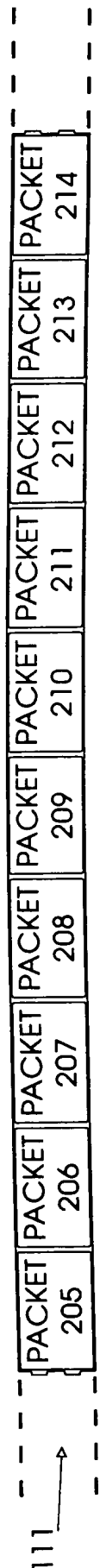
PACKET 285

FIG. 2B



↑
PACKETS CURRENTLY BEING DELIVERED TO DELAY BUFFER 140A

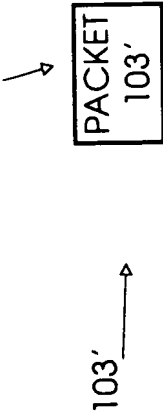
FIG. 2C



↑
PACKETS CURRENTLY BEING DELIVERED TO ROUTER 122A
WITH A 3-SECOND DELAY

FIG. 2D

RTCP SOURCE DESCRIPTION PACKET PERIODICALLY OUTPUT BY
MULTICAST GROUP_1 SOURCE 102

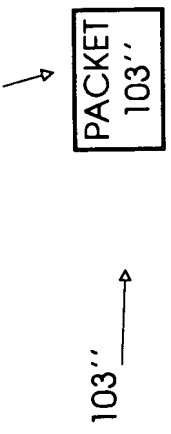


IP HEADER			UDP HEADER		RTCP SOURCE DESCRIPTION			
o o	SOURCE IP ADDRESS	DESTINATION IP ADDRESS	SOURCE PORT	DEST. PORT	CNAME	TOOL	NOTE	
	RETRANS. SERVER 110A	MULTICAST GROUP_1 ADDRESS						
		IP OPTIONS	MSG. PROC. 132A	MSG. PROC. 142	GROUP_1 SOURCE 102	MPEG2	"VOICE TRACK IS 5 CHANNELS"	

PACKET 103' →

FIG. 2E

RTCP SENDER REPORT PACKET PERIODICALLY OUTPUT BY
MULTICAST GROUP_1 SOURCE 102

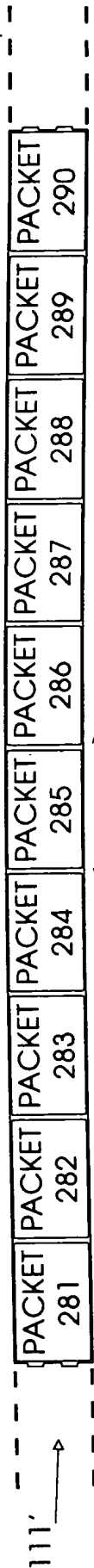


IP HEADER			UDP HEADER		RTCP SENDER REPORT			
00	SOURCE IP ADDRESS	DESTINATION IP ADDRESS	IP OPTIONS	SOURCE PORT	DEST. PORT	SENDER'S ID	SENDER'S PACKET COUNT	SENDER'S OCTET COUNT
	RETRANS. SERVER 110A	MULTICAST GROUP_1 ADDRESS		MSG. PROC. 132A	MSG. PROC. 142			

PACKET 103''

FIG. 2F

REPAIRED MULTICAST SESSION 111'
WHICH APPEARS TO RECIPIENT RECEIVERS 124A
TO BE THE SAME MULTICAST GROUP_1 SESSION
FROM SOURCE 102



IP HEADER			UDP HEADER		RTP MESSAGE		
○○	SOURCE IP ADDRESS	DESTINATION IP ADDRESS	SOURCE PORT	DEST. PORT	SEQUENCE NUMBER	TIME STAMP	DATA
	REPAIR SERVER 120A	MULTICAST GROUP_1 ADDRESS	DELAY BUFFER 140A	RCVR 124			
		IP OPTIONS			285	090235	

→
PACKET 285

FIG. 3

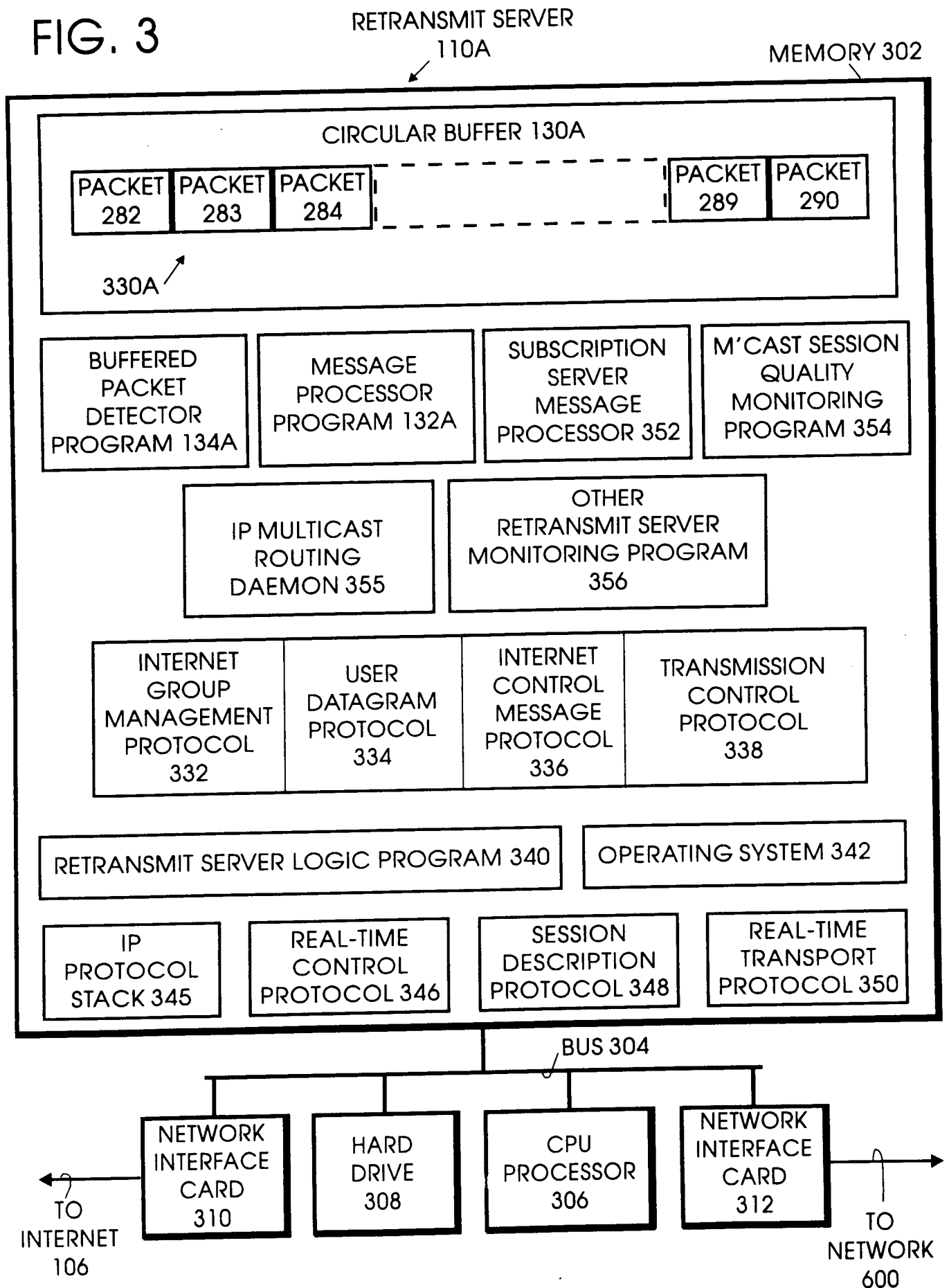


FIG. 3A

RETRANSMIT SERVER
110A

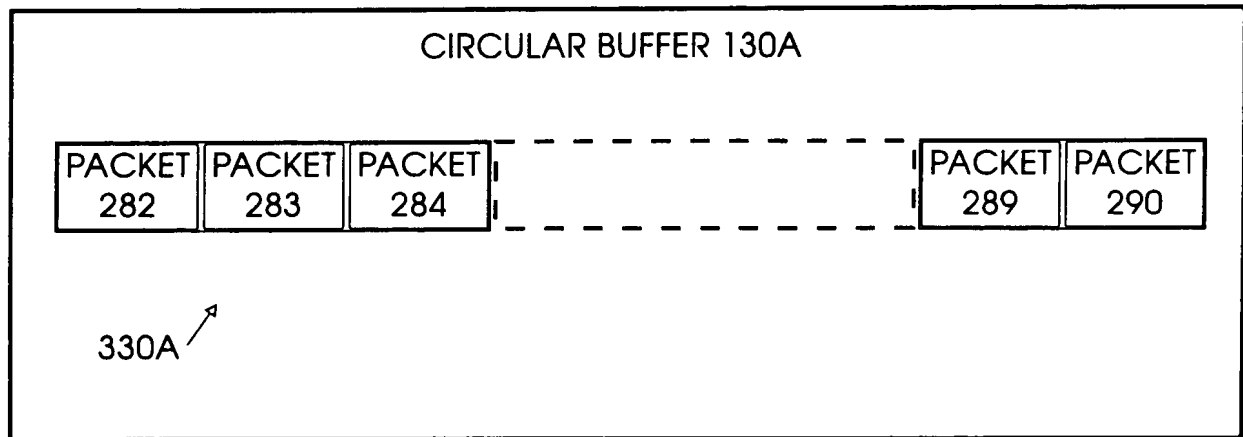


FIG. 3B

RETRANSMIT SERVER
110B

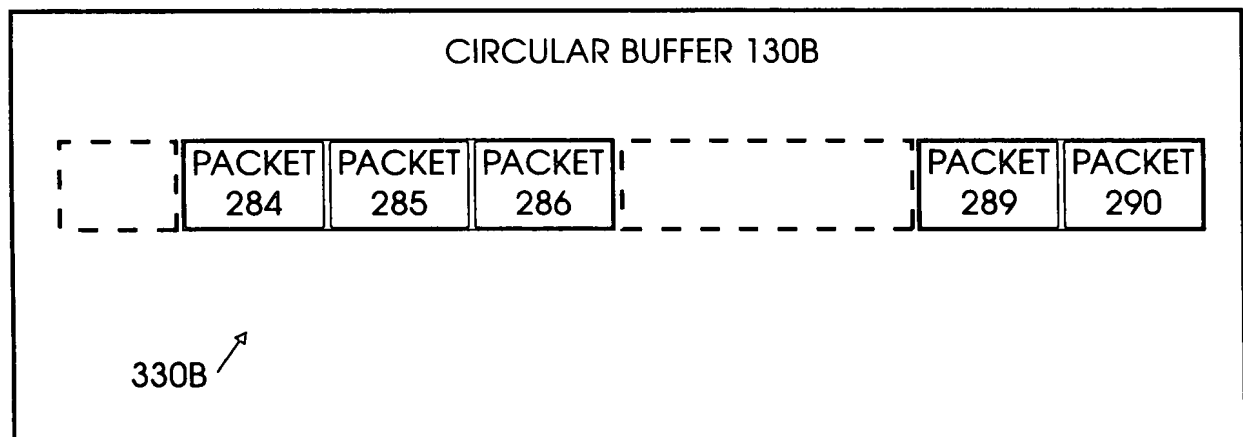


FIG. 3C

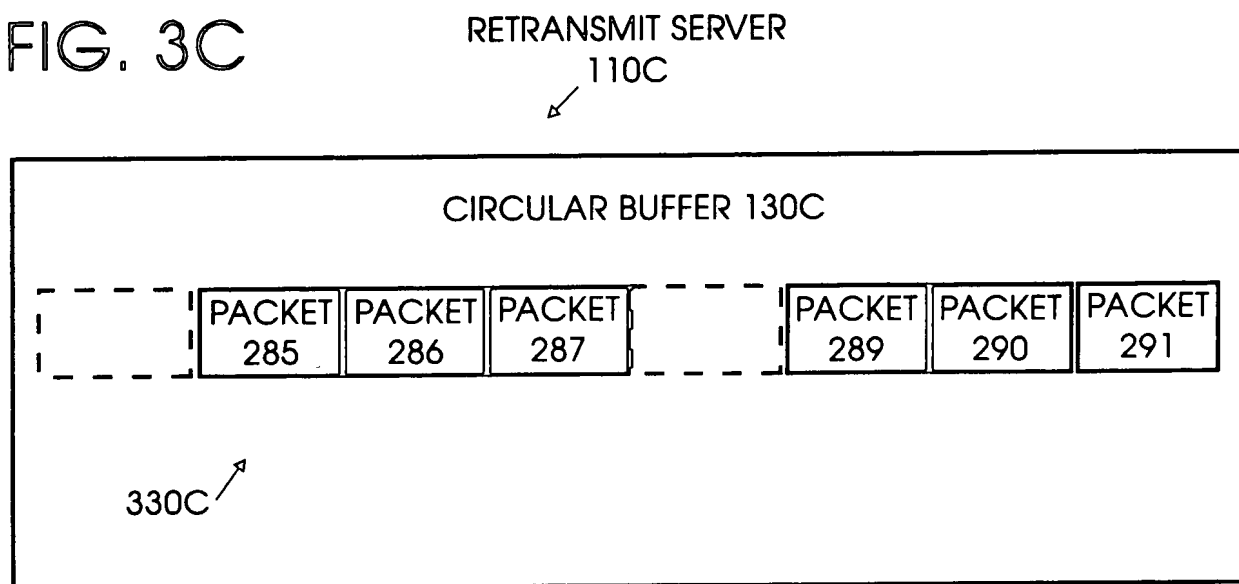


FIG. 3D

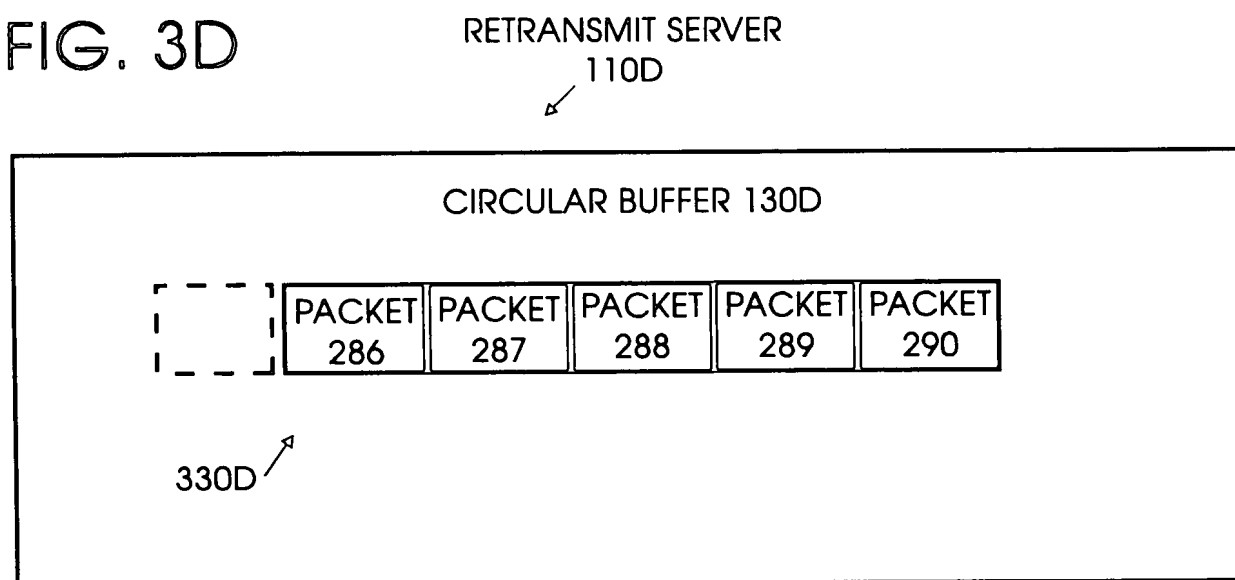


FIG. 3E

RTCP RECEIVER REPORT PACKET PERIODICALLY OUTPUT BY
RETRANSMIT SERVER 110A



PACKET
360A

360A



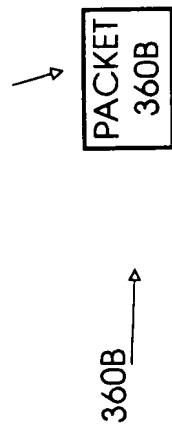
IP HEADER			UDP HEADER		RTCP RECEIVER REPORT						
SOURCE IP ADDRESS	DEST. IP ADDRESS		SOURCE PORT	DEST. PORT	ORIGINAL SENDER ID	RCVR'S ID	RCVR'S. PACKET COUNT	FRACT'N LOST	TOTAL LOST	INTER- ARRIVAL JITTER	ROUND TRIP DELAY
RETRANS. SERVER 110A	M'CAST GROUP_1 ADDRESS	...	MSG. PROC. 132A	MSG. PROC. 142	GROUP_1 SOURCE 102	RETRANS. SERVER 110A	286	286/290	4	0123	0567



PACKET 360A

FIG. 3F

RTCP RECEIVER REPORT PACKET PERIODICALLY OUTPUT BY
RETRANSMIT SERVER 110B

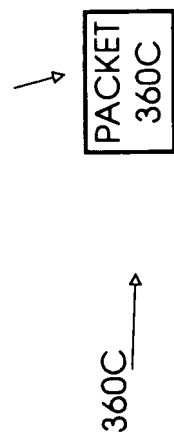


IP HEADER			UDP HEADER		RTCP RECEIVER REPORT						
	SOURCE IP ADDRESS	DEST. IP ADDRESS	SOURCE PORT	DEST. PORT	ORIGINAL SENDER ID	RCVR'S ID	RCVR'S. PACKET COUNT	FRACT'N LOST	TOTAL LOST	INTER-ARRIVAL JITTER	ROUND TRIP DELAY
...	RETRANS. SERVER 110B	M'CAST GROUP_1 ADDRESS	MSG. PROC. 132B	MSG. PROC. 142	GROUP_1 SOURCE 102	RETRANS. SERVER 110B	285	285/290	5	0125	0569

PACKET 360B

FIG. 3G

RTCP RECEIVER REPORT PACKET PERIODICALLY OUTPUT BY
RETRANSMIT SERVER 110C



IP HEADER			UDP HEADER		RTCP RECEIVER REPORT						
SOURCE IP ADDRESS	DEST. IP ADDRESS		SOURCE PORT	DEST. PORT	ORIGINAL SENDER ID	RCVR'S ID	RCVR'S. PACKET COUNT	FRACT'N LOST	TOTAL LOST	INTER-ARRIVAL JITTER	ROUND TRIP DELAY
RETRANS. SERVER 110C	M'CAST GROUP_1 ADDRESS	...	MSG. PROC. 132C	MSG. PROC. 142	GROUP_1 SOURCE 102	RETRANS. SERVER 110C	284	284/290	6	0127	0571

PACKET 360C

FIG. 3H

RTCP RECEIVER REPORT PACKET PERIODICALLY OUTPUT BY
RETRANSMIT SERVER 110D

PACKET
360D

360D →

IP HEADER		UDP HEADER		RTCP RECEIVER REPORT						
SOURCE IP ADDRESS	DEST. IP ADDRESS	SOURCE PORT	DEST. PORT	ORIGINAL SENDER ID	RCVR'S ID	RCVR'S. PACKET COUNT	FRACT'N LOST	TOTAL LOST	INTER- ARRIVAL JITTER	ROUND TRIP DELAY
...	...	MSG. PROC. 132D	MSG. PROC. 142	GROUP_1 SOURCE 102	RETRANS. SERVER 110D	283	283/290	7	0129	0573

PACKET 360D